Air Has Pressure

Activity Objective

- To demonstrate changes in air pressure

Materials

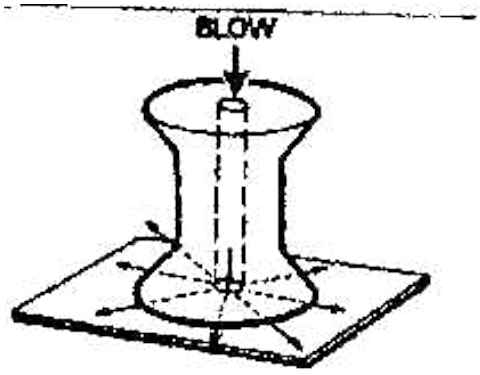
- ✓ Straight pins
- ✓ 1” x 1” piece of cardboard
- ✓ Wooden spool

Instructions

1. Stick the pin through the piece of cardboard and push the pin through the hole of the spool.

2. Hold the cardboard against the spool.

3. Blow through the opposite end of the spool and let go of the piece of cardboard.



Observation

Blowing into the spool makes the cardboard cling to the spool.

Questions

Why does the cardboard cling to the spool when you blow on it? (As the pressure in the air flowing through the hole in the spool and up to the cardboard becomes lower, the pressure on

the other side of the cardboard is greater than that inside the hole. Therefore, the cardboard clings to the spool.)

If you blow harder, the cardboard clings even tighter. Why? (Because the outside pressure is stronger than your breath inside the hole.)

Conclusion

Atmospheric pressure on the bottom of the cardboard is stronger than the pressure inside the spool and holds the cardboard.

Note that this is an application of Bernoulli's Principle.